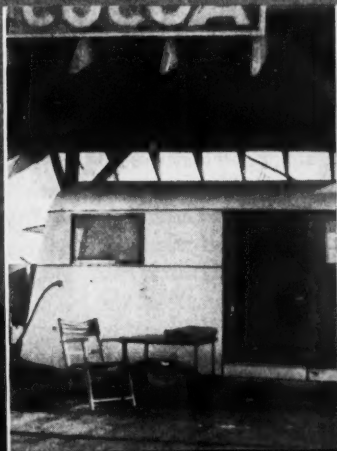




CONSUMERS' GUIDE

JANUARY 16, 1939



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FINAL examinations for dress fabrics, the National Bureau of Standards says, should give consideration to the following questions:

What is the fabric's breaking strength?

Is it colorfast to cleaning, dry and wet?

Is it colorfast to rubbing?

Is it colorfast to laundering?

Is it colorfast to light and perspiration?

Is it colorfast to pressing, dry and wet?

Does it shrink in laundering or cleaning?

Do the yarns slip?

Correct answers to these questions cannot be determined by a casual inquiring reporter. They must be asked and answered in a laboratory according to scientific tests, and if people are to know what the answers mean the tests must be standard tests.

Recently the National Bureau of Standards compiled in one bulletin (TS 2584), a recommended revision of commercial standard CS 59-36, all of the approved test methods for ascertaining fabric strength, colorfastness, and shrinkage.

Metal jaws are used in the standard test method for determining fabric strength. The cloth is tested in both the warp and woof by two vise-like jaws which pull the cloth apart. A constant rate of pull is used at a constant temperature. The number of

pounds of pull required to tear the fabric apart determines its breaking strength.

After having tested a fabric like this the manufacturer's report of the results might read: Breaks under loads of 50 lbs. pressure in warp, 60 lbs. pressure in woof.

Colorfastness to dry cleaning is determined by cleaning samples of the cloth in a solution of Stoddard Solvent, dry cleaning soap, and alcohol. After cleaning, they are ironed, or steam pressed, or steamed if they are velvet. If no change in color results in the fabric it is regarded as fast to dry cleaning. Other samples are tested for colorfastness to wet cleaning after immersion in distilled water and soap.

Testing for colorfastness to crocking is accomplished by attaching samples of the cloth to a board. Then a mechanical finger slides a plain white cloth back and forth over the samples being tested. If no color is transferred from the samples to the white cloth the fabric is regarded as fast to crocking (rubbing).

Colorfastness to light is determined by exposing a sample of the material being tested to a carbon arc light. Then after exposure to brilliant light the sample is put in a dark room for 2 hours. At the end of that time it is compared with another sample of the original cloth. If the colors match, the fabric is regarded as fast to light.

The perspiration tests take place on

both the acid and the alkaline side. One piece of fabric is wetted in acid rolled up with a piece of plain white fabric, and then dried in a heated oven. Another sample goes through the same procedure after wetting in an alkaline solution. After 48 hours the samples and the plain white cloths are examined. If the color has held in the samples and if no color has run into the white cloths, the fabric is regarded as fast to perspiration.

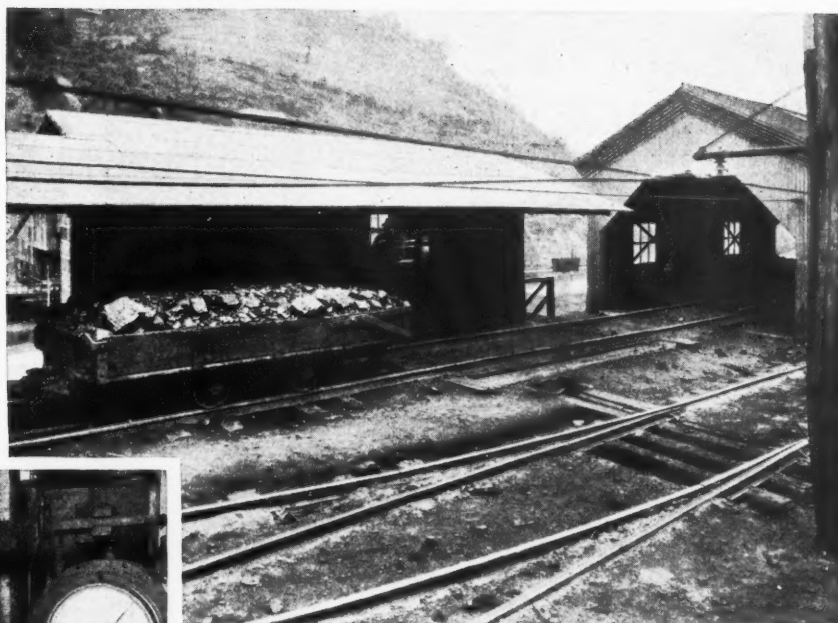
The test for yarn slipping resembles the test for breaking. This test determines to what extent the yarns in a fabric will slip at seams or become displaced elsewhere.

It is not necessary, however, for consumers to be able to make these tests themselves. But if consumers want the assurance that scientific experiments in the National Bureau of Standards now permit manufacturers to give them, they should insist on buying garments and fabrics which have been tested in accordance with the Commercial Standard tests of the National Bureau of Standards and found satisfactory for their intended use.

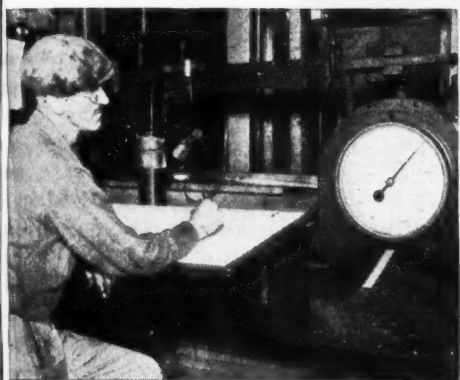
A modern scientific label, for example, on a rayon dress, could say reassuringly to consumers, "This garment has a breaking strength of 60 pounds in the warp and 50 pounds in the woof, and the percent of fabric elongation at the breaking point was 10 percent in the warp and 10 percent in the woof. It is colorfast to laundering, pressing, light, and perspiration. It will not shrink more than 2 percent. This test report is based on the National Bureau of Standards, Commercial Standard CS 59—."

MORE THAN 400 readers pitted their wits and wisdom against our Weights and Measures contest (October 28, 1938 issue). Deadline for entries came at midnight of December 15. Answers must make the rounds of the three judges, located in Wisconsin, New Jersey, and Virginia. Tabulation of returns has started and we hope to know by mid-February whose Consumer I. Q. rates highest. Meantime, the Virginia Weights and Measures Association confides to us the prize scale, awaiting the winner, is a beauty!

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ACCURATE WEIGHTS and measures mean dollars to miners. As coal comes out of the mine in cars, it is weighed to determine how much the miner should receive. Since the miner is down in the mines when his coal is weighed, he employs a checkweighman to see that the coal is weighed accurately.



Checkweighing for Full Measure

Growers and workers join hands with consumers in seeking standards of accuracy both in measuring devices and in the people who use them

SAY "Weights and measures" to the first person you meet and the chances are he will think of walking up to a counter and planking down money for something that is weighed or measured out to him.

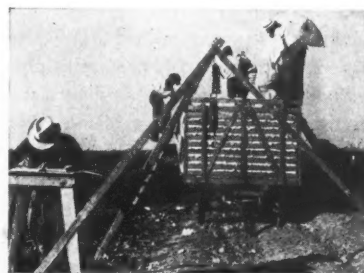
But weights and measures have a meaning to people on the other side of the counter. There are workers who walk up to scales to trade their labor for wages measured out at so much a pound or ton. Farmers, too, come to town and trade in for cash a year's or a day's produce at so much a pound. Dairy farmers sell their milk and their

labor by measure—two measures to be exact; first, the weight of the milk is established; then another apparatus measures the butterfat content of the milk.

When people begin to sell their labor by the pound, they take profound interest in the accuracy not only of the instruments used to measure their labor, but of the people who use the instruments.

Dig back into the history of such collective bargaining agencies of workers and farmers as unions and cooperatives and you will find that some of

them had as a first purpose guaranteeing at the time of the sale of products or labor that neither workers nor farmers were shortweighed. Laws, too,



4 appear on timeworn statute books for the same purposes.

Checkweighmen are what these laws provide for usually; checkweighmen whose duties are just about what you would imagine—to check the weighing of milk or coal, or whatever it is that is being sold.

By these laws, farmers or workers are permitted to have a representative examine the scales and their readings whenever their produce is being weighed up for payment.

UNLIKE ultimate consumers, the farmer or the worker selling produce must use the scales of the buyer. The ultimate consumer, on the other hand, when he makes his purchases uses the scales of the seller.

Farmers may haul their milk, for example, to a milk receiving station, or have their milk picked up by a trucker, but in either event it is weighed and its butterfat content is determined by the purchaser of the milk.

Just as there are a few chisellers who nick consumers with shortweighing devices, so there have been some dairies which farmers suspected of shortweighing. Chiseling like this seems to cut deeper when it is taken out of earnings than when it is simply an overcharge. Long ago farmers started going to State legislatures to ask for what are known as Babcock laws to protect them against shortweighing.

Connecticut's law is typical. First of all, no one is permitted to buy milk in wholesale quantities from farmers unless he has a license. When buying milk the purchaser must buy it by weight and not by measure. Butterfat content may be determined only by a tester licensed by the State. The apparatus he uses to test the butterfat must be inspected by a State inspector and bear his stamp of approval. When the test is made it must be made at a temperature prescribed in the State law. Not only is this protection provided but in addition the law gives the farmer or a group of farmers the right to employ a check tester to certify to the accuracy of the original weigher.

FARMERS take the right to employ a check tester seriously. Accurate

weights and measures are important to them. The Marketing Order, for example, which regulates the handling of milk in the Kansas City area, provides for a deduction of 3 cents per hundredweight from the amount of money received by the farmer for his milk. This money in part is applied to the "verification of weights, sampling, and testing of milk purchased from said producers." In each division of the Dairymen's League Cooperative Association of New York there is a person assigned to investigate complaints regarding weights, measures, and testing.

Alive to the importance of honest measuring, cotton producers in the South have put a law on the statute books in their own behalf. Fifty or more electors in a South Carolina township may, if they wish, get up a petition to elect a cotton weigher to weigh their cotton when it is driven in to be weighed and ginned. The law also provides that the cotton weigher who is selected in this manner may not be a relative within the sixth degree of any of the county commissioners. When the cotton weigher's family ties are straight, he must himself set to keeping his weights and measures straight. Once a month he must test his scales by the official standards in the office of the clerk of courts.

Georgia, which has no general weights and measures law, has a similar cotton weighing law and a Babcock law governing the weighing and testing of milk.

Leafing through the Nation's law books it is evident that most weights and measures statutes have been passed

in response to the special needs of particular producing groups. Vermont has a maple sugar law governing the measurement of maple sugar; Texas, a petroleum law; Massachusetts, a leather law; the Western States, their timber laws.

To many people, however, checkweighing is a word that calls up pictures of coal miners emerging from the mine pit, on their heads the miner's caps with the lamps which are the picturesque insignia of their trade.

THERE IS good reason for thinking of coal miners when you think of checkweighmen, for miners, more than any other group of producers, have gone to State legislatures most frequently for laws regarding checkweighmen. A look at the laws will tell you why.

In Colorado, for example, a law was passed permitting miners to select and to pay for a checkweighman to measure the coal that was hauled up the shafts.

Several years later the law was amended to provide for the election of checkweighmen by a majority of the miners paid on a tonnage basis. The election, the amendment said, was to be by "secret ballot at some convenient place near the mouth of the mine or at the check cabin, under conditions which will insure a fair and impartial vote." Where miners complain that they cannot by themselves get a fair contest, the State mine inspector is authorized to supervise the elections. The amendment also provided that the checkweighman should have access to the weights and measures used to

"Weights and measures may be ranked among the necessities of life to every human individual and society. They enter into the economical arrangements and daily concerns of every family. They are necessary to every occupation of human industry, to the distribution and security of every species of property, to every transaction of trade or commerce, to the labors of the husbandman; to the ingenuity of the artificers, to the studies of the philosopher, to the researches of the antiquarian; to the navigation of the mariner and the marches of the soldier, to all the exchanges of peace and all the operations of war. The knowledge of them as an established use is among the first elements of education and is often learned by those who learn nothing else. This knowledge is etched into the memory by the habitual application of it in the employments of men throughout life."

John Quincy Adams.

check the scales and that the mine owner must provide him with an office "kept in a comfortable and satisfactory condition."

Wherever coal is mined, apparently, the miners have found it necessary to organize and to go to their State legislatures for checkweighmen.

Arkansas provides for checkweighmen and check sealers to be selected by the miners. The mine owner is required to keep 500 pounds of check weights at the mine to which the check sealer has access at any reasonable hour.

TENNESSEE provides that the majority of the miners at a meeting called to elect a checkweighman shall select this important person. No check sealer is provided for but the miners have the right to complain to the State mine inspector against faulty weighing. Then if the mine inspector discovers that the scales are out of order the mine owner must pay the costs of the inspection. If the scales are all right, the miners must pay for the inspection.

In Utah the checkweighman solemnly swears to bear witness to the weights honestly. In Kansas a situation arose in which miners were forced to contract away their right to checkweighmen. Finally the laws report what happened. The legislature took action to guarantee the right to a checkweighman even where the miners contracted away this right. In effect the legislature said, the right to honest weights and measures is a right which cannot be alienated from a miner.

Miners in Pennsylvania won checkweighmen only to discover that some companies reneged on the agreements won and had the checkweighmen arrested as trespassers. Checkweighmen, a remedial law read, shall not be regarded as trespassers.

In Arizona the checkweighman must swear that he is a competent checkweighman before he enters on his duties.

Each morning, a Wyoming law provides, the checkweighman selected by the miners must balance the scales before any coal may be weighed.

West Virginia law provides that wherever workers are paid on the basis



THE BABCOCK MILK TESTER is a weights and measures instrument, too. It is used to measure the butterfat content of milk, and farmers are paid for their milk on the basis of Babcock reading. Babcock laws guarantee the accuracy of this kind of measuring.

of weights or measures they may by majority vote elect a checkweighman. In Ohio miners may have a checkweighman, but the mine's weighmaster, whether there is a checkweighman or not, must take an oath to weigh the coal accurately and in addition must give bond for \$300.

Certainly no one would suggest that consumers should go about electing checkweighmen. Wherever an effective Weights and Measures office exists consumers already have their checkweighmen. Weights and Measures inspectors in cities and counties have two responsibilities: first, to act as check testers for consumers, and then to act as checkweighmen for them.

As check testers they test scales and measuring equipment to see that these devices do their work accurately. Then as checkweighmen they make purchases and keep an eye on weights and measures practices to see that the men who use the machines read them accurately.

Consumers, of course, know that Bureaus of Weights and Measures are public departments with responsibilities to the public at large. Energetic Weights and Measures Bureaus, in

fact, issue releases to newspapers and give speeches over the radio to remind consumers of just that fact.

But no one ever has to remind a farmer or a miner that his checkweighman is his representative. They dig down into their pockets to maintain their checkweighmen, and if they think there are abuses in the weighing of their produce their checkweighmen hear about it without delay.

CONSUMERS with civic consciences who remember that they have taken too little interest in this aspect of their city government might offer the apology that after all the incomes of producers depend upon accurate measurements. Their salaries or their earnings would be short if they were shortweighted.

The answer to that is easy. No one really gets his salary until he spends it for goods and services. And if consumers don't make sure they get full weight and measure every time they make a purchase (and they can't really do this without the help of a Weights and Measures Bureau) they may be just going around giving themselves voluntary pay cuts.

What's Behind Your Hat

No quality standards are at hand to guide women in stretching their hat budgets, but millinery workers and employers have worked out fair labor rules to help stabilize their industry

SEVERAL years ago Lady What's-her-name was seen in Mayfair bareheaded. No one ever learned whether she had just forgot her hat or was simply affecting artlessness in dress that day, but the consternation the bareheaded Lady What's-her-name caused in the millinery industry is a very good indication of how jittery the millinery industry is. On the other hand the very sensible second thoughts of the industry are also an indication of the fact that basically the millinery industry has good sound sense.

When alarmists wrote that here was the beginning of a hatless fad among women similar to the hatless fad among men that caused so much grief in the men's cap and hat industry, some millinery people got together to combat this incipient threat to their industry. One excited milliner brought a proposed advertisement with him.

"Madame," the proposed advertisement read, "you are going bald." The idea was to tell women that if they went without hats their hair would fall out, and that, the disturbed milliner reasoned, would send women charging

into hat stores running up their charge accounts the way they had never run them up before.

But the sensible men in the millinery industry demurred. "The millinery industry is not the patent medicine business. We don't have to scare people half to death to sell them hats, and," they continued, "if we have anything to do with it, we won't try to scare people half to death."

Women don't buy hats, they said, because they are afraid to become bald. They buy hats because they like to buy hats. They buy hats because they like the feathers, the trimmings, the lace, the veils, the fruits, the flowers, the beauty of hats. They buy them because they like to try them on, because they like to wear them. They buy hats because there is a basic lure in hats for women. Make hats alluring and no one need worry about a hatless fad among women.

The sensible men won over and no advertisement ever appeared saying "Madame, you're going bald." Lady What's-her-name to the contrary notwithstanding.

BUT don't think for a moment that because hats have a fatal attraction for women, milliners don't have troubles. They do. Half of the 200 millinery firms studied by the Millinery Stabilization Commission, a millinery trade organization, lost money during 1935 and 1936. The average profit for all of the 200 firms was only \$534 in 1935 and an unbelievable \$149 in

1936. And yet despite the low profits, millinery is an American industry which will tilt 100 million hats more or less becomingly on the heads of American women this year for the relatively stupendous sum of 200 million dollars retail.

Reason for the millinery doldrums can be seen by looking either at a hat or a statistic. The hat that demonstrates the argument can be any one of the creations worn from 1903 to 1913, during what has been called the golden age of millinery. There was the Marie Antoinette Watteau, "Very high in back and much bedecked with flowers." There was the "Merry Widow with willow plumes." There was the "Hindu Turban trimmed with paradise feathers." These hats were made of wire frames covered with material and trimmed within an inch of a nightmare with feathers, flowers, fruits, and whatever else came to hand.

Today's hat usually has no wire frame. The great mass of lower-priced hats are stamped out by hydraulic presses; factory workers make them instead of milliners. They are not handmade, they are machine-made with blocks and dies. A woman's hat today is mass produced.

Automobiles went from handicraft production to mass production, were reduced in price from a couple of thousand dollars to 6 or 7 hundred dollars, and the automobile industry waxed mighty. Hats following the same general trend have waxed wan instead of mighty. The average wom-



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THE Consumers' Protection Label which tells that a hat was made under fair competitive and working conditions does not tell anything about its quality. To determine that consumers must judge the felt and workmanship for themselves.

an's hat in the golden age of millinery retailed for \$5, and women bought them with the seasons. The most popular woman's hat today retails for \$1.95, is usually felt, and is worn in any season. Eighty percent of all hats sell at retail for less than \$4. Machine production and low prices have not increased hat sales, and that is the statistic which explains why hats are in the doldrums.

The value of women's hats at wholesale declined from 209 million dollars in 1927 to 90 million dollars

in 1937. Wages declined from 47 million dollars to 24 million dollars in the same period.

Nostalgically the millinery industry would like to see trimmings come back. When hats bloom with bird of paradise feathers, they sigh, profits will flower again in millinery.

Not waiting on the resurrection of egret feathers, however, workers and the employers in the millinery industry in 1935, at the same time a similar development took place in the women's garment industry, met and formed a Millinery Stabilization Commission. A self-governing industrial body, the Millinery Stabilization Commission seeks to regulate commercial and labor practices in the industry.

VISIBLE SYMBOL of the Commission, so far as consumers are concerned, is the Consumers' Protection Label, which appears in about 80 percent of all women's hats. This label is an oblong piece of white satin guaranteeing that the hat bearing it was made under sanitary conditions at a fair rate of pay and was sold under fair and equitable commercial practices. Fair-minded consumers who are repelled by the thought that their garments are made by sweated labor can make sure their hats are fair hats by looking in the lining for the white satin label.*

Having ascertained, by looking for the Consumers' Protection Label, that a hat has been fair to labor, consumers should then set about looking and examining felt hats on their own account to make sure that they are fair to them.

The felt that finally finds its purpose on top a woman's head is made just like the felt that finds a similar destiny on top a man's head. It is made of the same furs, beaver, nutria, muskrat, hare, rabbit, and wool. For a description of how this felt is made see the *Consumers' Guide*, December 5, 1938. Once the felt is made, however, women's hats assume a greater number of shapes and finishes than do men's hats. Besides the familiar felt finish, for example, women's hats are

*More about the Consumers' Protection Label is given in "A Policy Insuring Value to the Woman Buyer and a Livelihood to Apparel Makers," Women's Bureau, U. S. Department of Labor. Address: Superintendent of Documents, Washington, D. C. Price, 10 cents.

finished in velour, soleil, suede, and antelope.

Velour is made from long fiber felts, which, instead of being sandpapered smooth, is scratched up with wire brushes. The soft furry surface which is produced by the scratching is then clipped short to give a pile finish.

Soleil is made by the same process except the long fibers are pressed flat instead of clipped.

Suede and antelope finishes are achieved in much the same way as the velour finish only the fur nap is clipped shorter to produce a leather-like surface.

Boucle, a new finish, has a pebbly effect which is attained by combing the fur nap up and then curling it by hand or machine.

Felt hat bodies, the first rough-shaped cone from which felts are made come in one general shape—a cone—for men's hats, but for women's hats they take a variety of shapes. Milliners themselves do not make the felt shapes. Many of them in fact are imported; in 1937 about 50 percent of the wool felt bodies, and about 3 percent of the fur felt bodies came from abroad. Fur bodies come from Germany, Italy, Czechoslovakia, France, and England. Wool felt bodies are imported from Italy, Germany, Czechoslovakia, and Poland, with most of the very cheapest grades of wool felts coming from Japan.

In the United States, Danbury and Norwalk, Connecticut are the source of most felt bodies.

WHILE FELT may be the substance of a felt hat, its meaning for a woman is its style. Style, it might be said, is block-headed in the millinery trade, and it is bought too. For style comes in the forms of wood blocks and metal dies, head shapes which are either carved or cast in the mode. Milliners purchase them from block and die makers who design the styles themselves, purchase them from stylists in New York or Paris, or, sometimes, pirate them.

Felt shapes are fitted over the blocks or dies and then by means of a hydraulic press, they are pressed by hot metal into their final shape.

From then on light-fingered women sew or paste in linings, attach ribbons, feathers, fruits, and, if they are the style that season, whatnots.

The price of a particular line of women's hats will depend in part upon the selling practices of the store where it is purchased. In some stores, for example, all of the hats in a particular lot which were purchased, say, at \$9 a dozen, will be marked at \$1.49. In other stores, however, the buyer goes over each hat and marks it for what he thinks he can get for it. The \$9 a dozen hat will then sell anywhere from \$1 up to \$3 or \$4.

Another factor in hat prices is the ownership of the hat department in a department store. Some of these hat departments are owned by the department store, but a great many are leased to a millinery syndicate, which operates the hat department exactly as if it had leased a store. What effect this practice has on hat prices is illustrated in a study made by the Millinery Stabilization Commission. The average gross profit on the wholesale cost of a hat sold in syndicate hat departments was 80 percent. The similar average in hat departments owned by the department store was 30 percent. All of this 50 percent additional margin was not necessarily reflected in higher retail prices. Millinery syndicates, because they buy in larger quantities, buy cheaper than their rivals in many cases, but it is unlikely that all of the 50 percent margin was represented by savings. Part of it may represent shrewder merchandising practices.

Syndicates themselves reply to this charge by saying competition between the many hat sellers in a city will keep prices down and eliminate unreasonable price advances. This would be true if hat purchasers were actually able to compare hat prices as they compare prices of graded meats.

HATS DON'T COME with Government grades, but to give consumers a couple of working standards, there are listed here a few signs to follow while exploring a millinery department.

That part of a hat which is a lure, of course, is outside the boundary of

any buying information map. But materials and workmanship do add up to something, and they can be charted.

Carefully skirting the frontiers of style, a hat's value depends upon the type of felt, the amount of felt, the workmanship, the amount of work required in making it, the quality of the trimming materials, and how much trimming material is used. This, of course, is just a general statement. Felt quality in hats ranges down from beaver felt, through nutria, muskrat, hare, rabbit, to the least expensive felt made of wool.

THE FEDERAL GOVERNMENT'S great buying agency, the Procurement Division of the Treasury Department, purchases women's felt hats for use in Federal institutions. Unlike the method used in the purchase of men's felt hats, no specifications have been drafted for women's felt hats. When men's hats are purchased the type of felt to be used is specified, as is the method of manufacture, and the type of band. In addition, specifications require that hats be colorfast, a fact determined by exposing a hat to a machine called the Fade-ometer for 60 hours.

Wool felt can be distinguished from fur felt by its texture. Wool felt is stiffer, less silky, less flexible. The pile is coarser and the felt is likely to have a stiff cardboard feel. Among the fur felts, the better grades will have a close packed pile, soft, silky, flexible texture, and, when worked with the fingers will feel like a soft well tanned leather. A good quality felt will also be uniform in thickness, will have no thin spots, and no sudden lumps. Thick felts incidentally are both longer wearing and more expensive than thin felts.

Special finishes make any one of the various kinds of felts more costly. Velour and a natural smooth felt finish are the lowest priced of the various finishes. But soleils, suedes, antelopes, and boucles all take extra care and extra work which will be reflected in the final price. White and pastel colored felts, too, are more expensive than dark colored felts since light felts are both more rare and more expensive to handle.

Color in good quality felt hats will be uniform. It will not shade off in some spots and come to life in another part of the hat. There will be

FELT HATS wear longer and look better when they are brushed regularly. Work with the grain of the felt and use a brush, not a whiskbroom.





FELT HATS wear out at the creases. To prevent this wear, creases should be pushed out and the brim unnapped after the hat gets wet or before it is put away.



A FINGER POKE through the hat is a casualty that results from tugging at the brim of a hat. Instead of pulling on the brim, use the flat of your hands against the crown to make it fit straight.

to spots, and the color will be even throughout the body of the hat.

The more felt in a hat, too, the more expensive it will be. Felt material in large brimmed hats, in turbans, in wraparounds, sometimes cost as much as 100 percent more than the usual hat body.

Trimmings, when there are any, add costs to a felt hat, and of course the trimmings can be chicken feathers or ostrich feathers, with varying effect on the final price of the hat.

PERFECTLY CANDID LABELS, and that is what consumers should expect but don't get, would say right off the bat whether or not a hat was a beaver felt, a hare felt, a rabbit felt, or a wool felt. They would identify the lining as silk, cotton, or rayon. They would tell consumers what bird the feather was plucked from, and they might say "this is a medium-weight felt," "a heavy-

weight felt," or "a light-weight felt."

In New York and Los Angeles there is one thing a hat seller must tell consumers. He must identify an "ashcan" hat. These are second-hand hats that have been cleaned, blocked, and put on sale again. In New York the law requires the seller of such a hat to say so in a sign that can be seen 30 feet away. The Federal Trade Commission also forbids selling ashcan hats for new hats. Final prohibition of this practice, however, depends upon local enforcement.

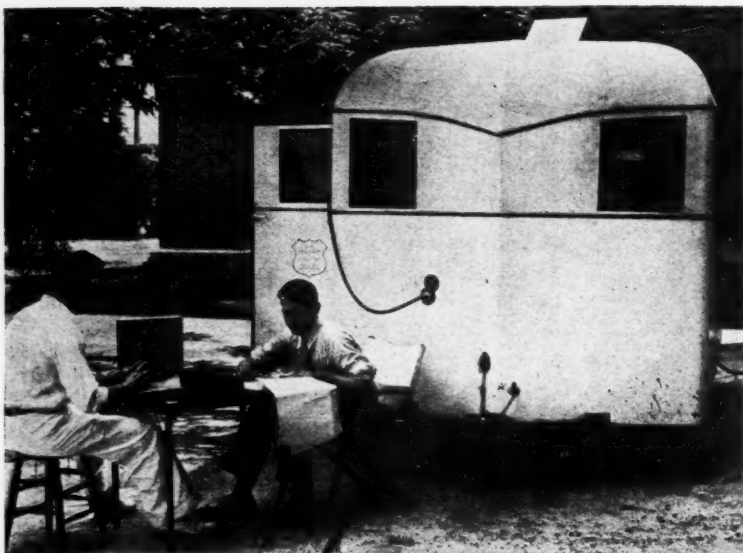
In the workmanship of the hat, consumers should look for linings that are sewed instead of pasted in, and careful uniform stitches on all the trimmings. Whether or not a band is silk, cotton, or rayon is also an index to the price range of hats.

Life expectancy of a woman's hat is somewhat shorter than that of a man's hat, statistics indicate, but there

are ways to add to the life span of a felt hat.

Felt hats should be brushed before they are put on, but the brushing should be done with a brush made of hair and not with a whisk broom. The brushing should also be with the nap from left to right. Spots can be taken out by rubbing them carefully with a dry rubber sponge. When felt hats get wet all the creases and folds should be pushed out and the hat should be placed on a table to dry. It should not be placed near a radiator or in a closet that is overheated. When it is finally dry, the hat can be pushed back into shape easily.

Many felt hats can be put to use for a second season. Fur felts particularly can be reblocked into practically a pristine freshness. Wool felts, on the other hand, are not likely to revive under a blocking sufficiently to make it worthwhile.



Consumer Protection Takes to a Trailer

Where minutes count the Food and Drug Administration sends its laboratory-equipped trailer to stand guard against dangerous foods crossing State lines

SCIENCE, you might say, is only two steps behind the American tourist.

That's because science, as practiced in the laboratories of the Food and Drug Administration, has taken to a trailer, collected road maps, and followed the highways out of Washington to get closer to the front in the fight for consumer protection. No kitchen, bedroom, and bath variety is this trailer, but a rolling laboratory, complete with Bunsen burner, incubator, and sterilizer, and equipped for all chemical and bacteriological tests.

Early in the year, in late January or the beginning of February, the traveling laboratory is rolled out of its winter quarters in the subterranean garages of the Department of Agriculture in Washington, hitched to a Department car, and sent on its way toward Florida with a bacteriologist of the Food and

Drug Administration at the wheel. His job is to cover the crabmeat plants that dot the coast all the way from Florida to the Chesapeake Bay area. He looks for one thing: bacterial contamination of the shellfish. Following the crabbing season north, he ceases operations in September when the season comes to its close along the bays and inlets of Maryland and Virginia.

Then back to Washington where a few changes are made to convert the trailer from a bacteriological laboratory to a chemical laboratory. Now, a chemist of the Food and Drug Administration takes over the wheel and is off to New Jersey, Pennsylvania, Maryland, and other apple producing States. For the next 2 or 3 months he devotes his entire time to checking apple shipments, looking for the dangerous spray residues that might cause lead poi-

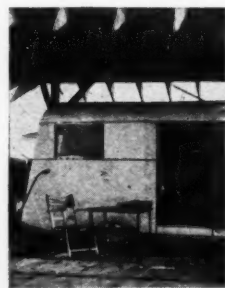
soning if the apples are allowed to get to market uninspected.

Most of the food testing done by Food and Drug experts takes place in modern laboratories in Washington or at branch stations scattered throughout the country. But many foods—

crabmeat and fruit—are off to market and into consumers' kitchens almost before the bacteriologist or the chemist has time to finish his work with test tubes and microscope. Those foods are perishable. They can't wait on scientific thoroughness. No matter how willing producers may be that they reach consumers perfectly safe and free from contamination, they can't afford to let stocks lie in storage while samples find their way to Washington, are put through routine tests, and the report sent back to the Government inspector keeping his eye on the shipment. That's not only slow but expensive; consumer appetites don't cease functioning pending the completion of this complicated business. It's to the advantage of producer, distributor, and consumer that the inspections be finished as promptly as possible.

A few years ago the problem of getting the testing done quickly was solved in more or less haphazard fashion by the scientists carrying their equipment around with them in trunks or crates. They went to local authorities and usually were given the use of high school or municipal laboratories in whatever town they set up shop. But this was half-way efficiency, at best.

Improvements were needed. Why,



somebody asked, can't we take along our own laboratory, set it up at the most convenient place, and do away with all this delay and inefficiency? That somebody got together with other somebodies, did some blueprint work, and soon had plans for the first laboratory on wheels to be sent out by the Food and Drug Administration. Equipment was supplied, a trailer shell was bought, and the whole thing put together in the machine shops of the Department of Agriculture.

That was 2 years ago. In the opinion of those whose work has benefited by this mobile laboratory, the plan has been a success. Inspections can be made quickly and more efficiently; greater ground can be covered, which means greater consumer protection.

MAJOR ASSIGNMENT of the trailer is to keep tabs on crabmeat plants, see that the shellfish comes to the consumer clean and uncontaminated. A small amount of work is done on lobsters and fresh shrimp, but this, the

trailer scientists have found, is only incidental to the big job that annually faces them in the growing crabmeat industry. Because it is an industry that has enjoyed a mushroom growth in the past few years, close checks must be kept on product and packing plants until the industry itself has learned to maintain clean and sanitary conditions.

When the trailer rolls into a crabmeat producing community, it needs only to connect electric cables and water pipes to set up operations. Lacking electric lines, it can operate on power supplied by its own storage batteries. Very often the bacteriologist and sanitarian who travel with the trailer are joined by State or local officials likewise interested in cleanliness of crabmeat plants.

Processing methods for canning crabs from American waters have not been developed. Crabs that are sold in cans usually come from Japan, and, in a few instances, from Russia. Crabs caught in American waters are first

cooked and sterilized in a huge retort, then placed to cool and dry. Workers pick out the meat, place it in containers with screw tops, and with no delay pack the containers in ice filled barrels. From there until the crabmeat reaches a hotel dining room or a consumer's kitchen, it is fast transport and cold storage all the way. The meat goes bad if left at ordinary room temperatures for any length of time.

Biggest danger in this packing process is that the meat will become contaminated through contact with dirty hands or filthy surroundings from the time it leaves the cooking vat until it is packed in ice. That's the reason Food and Drug inspectors are constantly trying to get packers to clean up their plants and educate their workers to the need of keeping clean. Under the present law, the inspector can do nothing—can't even inspect a crabmeat packing plant—unless the operator agrees to the inspection. Of course, it's a different story if the packer is found to be shipping contaminated meat. In that case the inspector can go to a local or State health authority or to a court to force the packer to "clean up." When the new Food and Drug Act goes into effect June 2, the Secretary of Agriculture will be authorized to compel packers to operate under Government inspectors unless they voluntarily keep their plants clean and ship pure products.

LITTLE TIME IS LOST after the trailer is set up, ready for operations. A Federal inspector with legal powers to check crabmeat shipments stations himself at the local express or shipping office and awaits results. He knows that in an hour or 2 a consignment of freshly packed crabmeat will arrive ready for shipment. When it does he removes a representative number of cans from the lot, clears the rest for shipment after noting its destination. Sample cans are rushed to the trailer and the bacteriologist gets to work.

He mixes some of the crabmeat in sterile water, then pours a small amount of the water into a "broth" on which any stray bacilli will soon thrive. Microscopic game of the bacteriologist is "E. coli," which is of

SCIENCE takes to the road in its fight to protect consumers against contaminated foods. Here a bacteriologist works in a well-equipped laboratory-trailer looking for contamination in crabmeat. If gas forms in his bacteria "broth," he suspects presence of dangerous organisms.



12 intestinal origin. Its appearance in freshly packed crabmeat renders the food potentially dangerous because of the possible presence of disease-producing bacteria which can cause plenty of trouble if they get into the human digestive system. In 18 to 24 hours the bacteriologist checks his "broth" for formation of gas. If it has formed, the danger flag is up. Off goes a wire to the Food and Drug inspector stationed at the point of destination of the crabmeat shipment. Contamination is suspected. The shipment must be held up pending final tests. The inspector holds the crabmeat, usually getting an embargo on it with the aid of local health authorities if necessary. It is not allowed to get into consumers' hands. In another 24 hours, the bacteriologist has completed his test, has final results one way or the other, and wires instructions to the inspector either to seize or release the shipment.

An order to seize it means the shipment is contaminated. If the shipper wants to, he can get his own bacteriologist to check the test and go into court demanding release of the shipment in the event he feels the Government bacteriologist has erred. Otherwise, the shipment is destroyed, but in a few days a Government sanitarian is back at the plant making suggestions

for cleaning it up as a preventive measure against further contamination. Repeated violations of the law can result in court action and fines against the shipper.

Apples, too, are given the go signal when they are ready for distribution. They are picked and in a few hours are packed into trucks that go rumbling off to some distant market. It isn't many hours before they may be sold to consumers.

APPLES INTEREST Food and Drug officials because of the lead arsenate spray that is used on them while still on the trees to prevent worm infestation. Both the arsenic and the lead in the spray are poisonous, can have serious results to consumers if not washed to the limit prescribed by the Secretary of Agriculture on the advice of the Public Health Service to which Congress has assigned the task of researching into the effect on human consumers of eating lead and arsenic. The only way Food and Drug inspectors can check the apples for spray residue is to watch highways where they cross State lines and stop all apple trucks.

In some cases they merely take samples of the apple shipment and ascertain its destination. Sometimes—as with the trailer—they have their own

equipment with them and test the samples then and there. If the apples are found to have on them spray residue in excess of the permitted quantity, the chemist telephones or wires ahead and a Federal marshal seizes the lot when it reaches its destination.

Tests not made on the road are made in the nearest field station. Food and Drug inspectors watch the highways for apple shipments all day and all night, check their destinations, and then—hours ahead of the trucks—telephone warnings to the agents in the cities giving them details of the shipments. Before you can say "excessive spray residue," the agents are off to the markets or warehouses, checking shipments and taking samples for testing as fast as they come in. Usually dealers cooperate with them in keeping the apples from consumers until the tests are completed.

The trailer-laboratory has "streamlined" and modernized the work of the apple testers. The chemist only has to circle the spot on the map where he knows apple shipments are due, take his trailer—just as he previously took his portable laboratory—and set up operations.

It takes him 30 minutes to make the test no matter where his laboratory is set up. If the apples are O. K.'d by the analyst, well and good. But if the test shows more-than-permissible spray residue, the shipment is seized by a Federal marshal and held for action. Unless the shipper desires to contest the seizure, a court may order the destruction or disposal of the apples. Sometimes shippers take back the apples under bond, re-wash them to reduce the residue, and call in Federal chemists for another inspection.

Some day, perhaps, there will be a fleet of these laboratory-trailers speeding up still more the work of the Food and Drug scientist-policemen in their fight to protect consumers against contamination of perishable commodities that must be rushed to market without waiting for the results of long tests. Already they have found improved conditions resulting from the work of the trailer. It's one time that science must thank the American tourist for a good idea.

IN THE FALL the trailer becomes a chemical laboratory to test apples for excessive spray residue. These apples have been taken from an interstate truck. Government officials will order the shipment off the market if the tests show a dangerous amount of spray residue present.

CONSUMERS' GUIDE





INTENDED primarily to protect farmers, the Federal Insecticide Act regulates all insecticides and fungicides sold in interstate commerce whether they are sprayed by airplane across thousands of acres like this, or whether they are sprayed out of a handpump onto a pest-infested chair.

Getting the Better of Bugs and Bacteria

Economic Poison Acts set snares for products that fail to perform or prove injurious in producers' and consumers' fight against farm and household pests

AS RUGGED an individualist as ever went picknicking on a damp kitchen floor in the middle of the night, the humble cockroach must regard certain laws as poison. And rightly so, for that is what the economic entomologist calls them—the Economic Poison Acts. Other people call these laws the Insecticide and Fungicide Acts. Under either name they are ammunition for the battle on cockroaches, fungi, boll weevils, flies, termites, ants, mosquitoes, silverfish, moths, centipedes, and many of the similar varieties of indoor and outdoor pests.

Not only is there a Federal Insecticide and Fungicide Act but some 25 States have passed laws which mark for extermination these household annoyances.

Farm producers concerned less with pests in the home than those which threatened their family source of income were loudest in advocating these laws. They wanted laws to help in the fight against insect and fungus scourges which threaten year after year to devastate their fields and orchards. Peach scales, boll weevils, and mildew were other culprits aimed at by the Economic Poison Acts. The laws were passed primarily to protect farmers against the adulteration and misbranding of insecticides and fungicides. But they happen, also, to protect household consumers who purchase these products for home use for Insecticide and Fungicide Laws look with unperturbed impartiality upon pests whether they prey inside or outside the home.

Bacteria, too, have had a restraining finger put on them as the result of the Insecticide and Fungicide Acts. Bacteria are simply forms of fungi, and just as household pests have been caught in the wake of a law aimed at farm pests, the bacteria to which consumers play host have been side-



14 swiped by a law which does more than assist farmers in the control of fungi causing mildews and smuts on farm products.

Triple-action laws, Insecticide and Fungicide Acts, then, not only protect farmers purchasing insecticides and fungicides incidental to the production of farm products; they also protect domestic consumers when they go buying preparations for the riddance of household pests, and function as health laws in those States where they regulate disinfecting preparations.

Two kinds of hazards from adulterated and misbranded pest-killers afflicting farmers brought about the passage of these laws. "Investigations have shown," read an official Department of Agriculture report in 1910, "that many of the insecticides offered to our farmers are of little value and that the price demanded and the value of the goods are not always proportionate." There was another hazard according to this report. "Two of the samples examined proved to be composed en-

POWER SPRAYS are best in the application of insecticides. They force the liquid into the upholstery and are more effective in reaching hidden insect pests. No spray is effective unless it actually comes into contact with the fugitive bug.



CONSUMERS' GUIDE

tirely of white arsenic, a compound which would either kill the trees or seriously injure them." Apparently not only were farmers being overcharged, but the stuff they were sold hurt instead of helped.

The Insecticide and Fungicide Act aimed a double barrel at both of these abuses.

INSECTICIDES are defined as any preparation for use in attacking any variety of insect.

Fungicides are defined as any preparation for use in attacking any variety of fungus.

In addition standards of quality have been set for two insecticides in the law.

Paris Green, for example, is adulterated if it does not contain at least 50 percent of arsenious oxide, its effective constituent. But since certain forms of arsenious oxide kill plants as well as insects the law adds that Paris Green is adulterated if it contains more than $3\frac{1}{2}$ percent of these substances in a water soluble form. In a catchall clause, the law cleans up the Paris Green problem by making the addition of any substance to Paris Green illegal if the addition reduces its strength or injuriously affects its quality.

Lead arsenate paste, another standard familiar poison, has similar rules governing its preparation.

As for all other insecticides and fungicides, they are illegally adulterated under conditions very much like the familiar provisions of Food and Drug laws—if they fall below the standard claimed for them; if there is a substitution of an effective ingredient in whole or in part; if any valuable ingredient has been abstracted in whole or in part; and finally in a very special provision, if it contains any substance which is injurious to vegetation.

Some of the legal don'ts which apply to misbranding are familiar to any observer of the Federal Food, Drug, and Cosmetic Act provisions. Insecticides and fungicides are misbranded when their labels are false and misleading in any particular; when they are offered for sale under the name of another article; when they are labeled or packaged in a manner which is deceptive to the purchaser; when a substitution is

made in the contents of a package; and when the net weight or measure is incorrectly stated on the package.

Then there are some additional requirements which deserve special note. Some types of vegetables are especially susceptible to arsenical injury. To ward this kind of injury off, when there is arsenic present in a pest-killer the label must state clearly the amount of the water soluble arsenic that it contains. Besides if the pest-killer contains arsenic at all this must be indicated.

Pest-killers, like remedies for human ailments, may contain two types of ingredients: effective and inert ingredients. Sometimes the effective ingredient is contained in infinitesimal quantities while the inert ingredients are present in abundance. Now this need not be, strictly speaking, a form of adulteration. There may be a perfectly legitimate reason why the inert ingredient is present. In paints, for example, they serve a definite purpose; also in animal feeds and pest-killers.

Under Federal law if there are inert substances in the pest-killer the manufacturer of the preparation must do one of two things. He must either give the name of each inert ingredient on the label together with its exact percentage; or he must list all the active ingredients with their exact percentage and also the total percentage amount of any inert ingredients.

That's the Insecticide and Fungicide law, and like the Federal Food, Drug, and Cosmetic Act it is enforced by the U. S. Food and Drug Administration.

NOT ALL PEST-KILLERS, it should be noted, come under the law. Rodenticides, that is rat-killers, do not come under the provisions of the Insecticide and Fungicide law, nor do any of the substances used to kill animal pests other than insects. The importance of this omission may be estimated by the fact that the nearest thing to a rat census has revealed that there are two rats in the United States for every human being.

State laws which are necessary in the field of economic poisons for effective policing against misbranding and adulteration just as they are in the food,

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drug, and cosmetic field, in at least two cases remedy this omission. California's Economic Poison Law, for example, applies to all economic poisons whether they are for use against fungi, animal pests, insect pests, or weeds.

Registration is the device which the California law uses as the central enforcement technique. Manufacturers intending to sell their products in the State must register the brand of their product with the State Director of Agriculture. Along with the brand name they must also submit an analysis of their products or samples. After testing in the State laboratories, the Director of Agriculture may refuse to register a product if it does not meet with State specifications.

LEGAL OFFENSES are offenses ordinarily against the State. Once a law is violated, even if an individual suffers, it is the State which is aggrieved, and which punishes the offender and collects the fines imposed. The person who has suffered from the offense must be reimbursed for his injury by going into a civil court and suing. In Tennessee, however, farmers who have purchased substandard pest-killers must be reimbursed, under the law there, by the guilty manufacturer. The amount paid to the farmer is equal to the difference in value between the product he got and the product he should have received. The commissioner of agriculture is responsible for collecting this money for the farmer. When the commissioner determines that the substandard product was sold with fraudulent intent, the penalty is doubled and the whole sum goes to the aggrieved farmer.

In Ohio and Washington pest-killers must be sold with a guaranty. Then when the preparation does not live up to its claims the farmer may sue for damage on the basis of the guaranty he has received. The effect of these laws is to require a written guaranty with every sale of a pest-killer.

Many States have found that while the Economic Poison Acts are necessities, their enforcement is expensive. Enforcement of such laws takes an expensive battery of scientists—chemists, entomologists, and plant pathologists—



FARMERS demanded an insecticide law for two reasons: To make sure that insecticides actually worked, and to make sure that they didn't harm their crops. As the result of the Federal Insecticide Act this farmer can spray his cotton secure in the knowledge that he has guarantees on both scores.

along with costly laboratories. As a result, State agencies have been forced to lean more and more heavily on the Federal Department of Agriculture's bureaus and laboratories. Federal Government assistance has been hampered, in turn, by the lack of uniformity among State laws. Well-intentioned manufacturers, too, have found the multiplicity of State laws a handicap.

To bring order out of the confusion that has resulted from many State laws, proposals have been made to draft a uniform State law to serve as a model to the States. A law of this kind would be doubly useful in that it would enable the States that have no provisions covering animal pest-killers to police these preparations.

CONSUMERS have more than passing interest in the Insecticide and Fungicide laws as they are enforced today.

Moths get into consumers' furs, and rugs; they destroy fabrics, and generally are a nuisance. Seeking relief from this kind of thing consumers last year might have gone out and bought a moth remedy which the Federal Food and Drug Administration inspectors picked up in Wisconsin.

"For upholstered furniture," its label

read, "they are wonderful. One tablet will keep moths out for 2 months." The same company also had another preparation, about which it was equally ecstatic: "These wonderful vaporizing crystals purify the air, combating obnoxious odors. To protect clothing, woolens, furs, etc., place a liberal amount of the crystals in a chest or trunk" and so on. In the more sober words of the Food and Drug Administration these label claims boiled down to three words, "false and misleading." The remedies would not be "effective for the said purposes when used as directed," said the Food and Drug Administration.

Pretending to combine the properties of a disinfectant with that of odor killer, another remedy recently fell afoul of the Insecticide Act. This preparation claimed to be a non-poisonous preparation which would "kill any odor caused from organic matter." Again the Food and Drug Administration found this preparation did none of the things it claimed and was poisonous to boot.

Roach-killers, fly sprays, disinfectants, dog soaps, flea remedies, moth-proofing preparations (see *Consumers'*

[Concluded on page 19]

For the Battle Against Bugs

BED BUG



The bed bug infests furniture, clothing, baggage, walls, laundry. It is not known to be a disease carrier, but its bite frequently results in inflammation and welts.

The most efficient method of eliminating bed bugs is to employ a professional fumigator working under a license issued by the local health department.

Where this cannot be done bed bugs can be attacked by heating the room or the entire building to a temperature of 120 to 125 degrees. This temperature should be maintained for several hours. If this too is impossible, bed bugs may be attacked by a solution of pyrethrum in kerosene. This should be sprayed so that it comes in contact with the bed bugs. The best way to do this is to use a power sprayer. Filling the room with spray will not work.

An effective but tedious method is the application of kerosene, turpentine, benzene, or gasoline to cracks in bedsteads or to the other hiding places of the bugs. When doing this the windows should be kept open and all fire kept away. The infestation of furniture may be overcome either by fumigation or by liberal application of clear gasoline to the furniture in the open air.

CARPET BEETLE



The carpet beetle, or buffalo moth, attacks household furnishings containing wool, hair, bristles, and other animal substances. Effective control of the carpet beetle will also eliminate moths since that insect infests the same places and eats the same food.

Stored clothes can be protected from them by sprinkling a pound of naphthalene or paradichlorobenzene between layers of thin paper placed at various levels in the clothing. The trunk should then be tightly closed. In tightly closed closets carpet beetles may be eliminated by sprinkling a pound of either of these substances for every 100 cubic feet of closet space.

Persistent spraying of a kerosene oil pyrethrum solution into the closets where these pests hide will also eliminate them. The spray, however, must come in contact with the carpet beetle.

Nailed-down carpets provide hiding places for these bugs. The best way to rout them out from under carpets is to carpet only within 12 or 18 inches of the wall. Then the rug may be lifted up and cleaned.

In cleaning carpets both sides should be vacuumed or swept. When stored, rugs should be thoroughly cleaned on both sides, well covered with naphthalene or paradichlorobenzene, rolled tightly, and then wrapped in unbroken paper so that insects cannot get to the carpet.

Infested furniture may be either fumigated or sprayed.

COCKROACH



Cockroaches destroy food, book bindings, fabrics, but even more important, they are disease carriers and pollute food over which they run.

To eliminate cockroaches trade at roach-free stores and watch all boxes or baskets of food and laundry brought into the house.

Fumigation by a professional fumigator is the most effective way of ridding the house of roaches. This method, however, is expensive and in infested areas is apt to give only shortlived relief.

Amateur exterminators should first fill up the cracks which lead to roaches' hiding places with putty, plastic wood, or plaster of Paris. Then sodium fluoride powder should be sprinkled along the back of shelving and drainboards.

If possible blow the powder with a duster, bellows, or an electric power duster into the insects' hiding places. Sodium fluoride is poisonous, however, and should be kept out of food and away from children and pets.

Pyrethrum powder is a non-poisonous roach-killer and may be used in the same way. On exposure to air, however, it loses its effectiveness after a time.

Phosphorous pastes are useful. Spread the paste on a piece of cardboard and roll into a cylinder. Wrap around with a rubber band and then place it wherever the roaches have been destructive.

Sprays of kerosene oil and pyrethrum extract may be used also but it must be remembered that these kill only by contact.

FLEA



A dog or cat may be rid of fleas by the application of a level teaspoonful of derris powder to the skin along the back, neck, and the head.

Derris powder, whose effective agent is rotenone, may be diluted with talcum powder to reduce the rotenone content to 1 percent.

Pyrethrum powder may be used where derris powder is not at hand.

Infested areas in houses and barns should be sprayed with creosote oil. Because of its odor and because it burns plants and animals, creosote oil, however, cannot be used in every case. Where fleas occur in living quarters, scatter flaked naphthalene over the floor of the infested rooms at the rate of 5 pounds per room. The room should be kept closed from 24 to 48 hours.

Sicktight fleas which are troublesome in the South can be controlled by spraying with creosote oil infested chicken houses and areas beneath buildings frequented by poultry or pet animals. The masses of fleas attached to poultry or pet animals may be treated with derris powder or carbolated vaseline.

HOUSE ANT



Ant control must center on the destruction of the queen and the young in the nest itself. Where the ant colony can be located it may easily be destroyed with a tablespoon or so of carbon disulphide. When the worker ants appear from under the stones or between the bricks of a walk, their colonies may also be destroyed by pouring a tablespoon of carbon disulphide down the crack.

Where the nests are in woodwork, by means of a small syringe inject a tablespoon of carbon disulphide and then close the opening with plastic wood or putty. Where the ant galleries are widely separated it is desirable to make injections at intervals in the wood.

For unlocated ant colonies the use of baits, powder, sprays, or chemical barriers is recommended. No one preparation will do for all kinds of ants. Some ants eat one kind of poison but not another. Some eat only sweets, others eat only meats and grease.

Dusting sodium fluoride powder about window sills, drainboards, foundations, and other places where ants crawl sometimes drives them away.

Pyrethrum sprays can be used but they kill only the ants actually hit by the spray.

The use of poison baits is also recommended but since the type of bait used depends upon the variety of the ant, householders are advised to write to the Superintendent of Documents, Washington, D. C., for the Bureau of Entomology's leaflet No. 147 (5 cents in cash), for further information about baits.

SILVERFISH



Silverfish are slender, wingless, scale-covered insects slightly more than $\frac{3}{4}$ of an inch long. They are found in damp, warm basements, storerooms, and attics where they feed upon paper, book bindings, wall paper, rayon fabrics, and anything containing starch or sugar.

They may be controlled by the use of a poison bait made of $1\frac{1}{2}$ cups of oatmeal ground to flour, $\frac{1}{4}$ teaspoon of arsenic, $\frac{1}{2}$ teaspoon of granulated sugar, and $\frac{1}{4}$ teaspoon of salt. The mixture should be stirred up and then moistened. Dry the bait, pound into small bits, and scatter wherever the silverfish are found. Sodium fluoride may be substituted for arsenic in the formula.

Pyrethrum powder also may be used. This should be dusted or blown into the infested area. Another effective method is spraying with a saturated solution of paradichlorobenzene in carbon tetrachloride. If possible the room sprayed should be closed for 24 hours.

HOUSE CENTIPEDE



The house centipede, whose name indicates that it has 100 legs, but which has only 30 legs, is a harmless creature and a very efficient enemy of most household pests. It destroys no household goods or woollens and bites human beings only on provocation. Because of its terrifying appearance, however, most house authorities consider it an unwelcome visitor.

It can be best controlled by destroying all the individuals which make their appearance and by sprinkling fresh pyrethrum powder near water pipes or in store rooms where it usually secretes itself.



BY AN AGREEMENT between the Equity Union Creameries and the Consumers' Cooperative Association, Equity Creameries in three States—North Dakota, South Dakota, and Iowa—will sell co-op groceries bought through the North Kansas City, Missouri, consumer wholesale. The Equity Creameries operate a fleet of trucks for the milk business, and can readily deliver groceries from their Aberdeen, South Dakota, warehouse.

Equity stockholders, in voting in favor of the arrangement with the consumer wholesale, pointed out that the sale of groceries should help utilize space more efficiently and reduce overhead expenses. "We believe," they said, "that now is the opportune time for the organization and development of consumer cooperation throughout our territory, thereby aiding producer cooperation at a time when it would be of great help to the cooperative movement in general." They voted that the grocery department be operated on a strictly cash basis.

COOPERATIVE activity reached a new high point, literally, when the first lines of the Lower Valley Power and Light, Incorporated, were energized recently at Afton, Wyoming. This cooperative serves a community 8,000 feet above sea level. The valley is so isolated that the closest telegraph office is 90 miles away.

The Salt River, which turns the turbine for the cooperative's own hydro-electric generating plant, is high up in the Rocky Mountains. When in full operation, this plant (made possible by a Rural Electrification Administration loan) will be serving 670 families over 110 miles of electric lines.

Dairying and the raising of alfalfa are the chief income-producers for these farmers. In three cooperative

plants, they produce Swiss cheese valued at 3 million dollars a year.

The enormous difficulties which beset the construction of the power house are over. But the cooperative's members will still have to think about the dangers of electric storms in summer, and the need in winter for its men to travel on skis or snowshoes in some districts for meter-reading and maintenance work.

NEARLY 2,000 cooperative purchasing and marketing societies are reported for Wisconsin. Among the many organized in recent years are a number with membership chiefly of city folks.

The Racine Consumers' Cooperative Association, organized 3 years ago by Racine wage earners, is said to be the largest of Wisconsin's city cooperatives. Last year, according to the report presented at its annual membership meeting, the Racine organization did a business of \$217,000. Beginning with a single service station, the co-op now owns and runs six gas stations, a bulk oil plant, a coal yard, a grocery store and meat market, an insurance department, and departments for electrical goods, paint, and men's clothing. Members have their own credit union.

Two thousand five hundred members are fully paid up; many other patrons are gradually acquiring shares through the accumulation of their dividends on purchases. From a capital of \$1,200, the co-op has in 3 years built up assets of \$77,000.

Typical of the close working relationships this cooperative has sought to achieve with farmer's groups, was the election of two farmers to its board of directors. Chief speaker at the annual meeting was the editor of a Nebraska farmers' journal.

COMPLETING its first year of oper-

ation last December, the Cooperative Book Club counted members in every State of the Union, Hawaii, Alaska, the Philippines, Puerto Rico, and several foreign countries. In addition to buying books for individual members on a non-profit basis, the organization sponsors reading circles and discussion groups, and publishes the *Reader's Observer*, a guide to current books. The Club has also developed a "Book Cooperative for Libraries," which is supplying 37 public and university libraries and libraries of cooperatives and other non-profit organizations.

GREENBELT, MARYLAND, citizens have been learning about cooperatives by taking part in them. Greenbelt mothers discovered a new cooperative angle the other day. A group of mothers in the Parent-Teachers Association proposed to set up a hot dish counter to provide at least one hot dish for the youngsters who take their own lunches to school. But their organization had no funds for the purpose.

The "Gum Drop Co-op," the Elementary School's Junior Cooperative Store, did, however, have cash available. A year's operations had not only provided lessons in cooperation and in business arithmetic, but had also amassed a tidy surplus. For in line with the best practice for a new cooperative enterprise, the cooperators had put a large part of their dividends into the reserve fund.

When their mothers approached them for a loan, the Board of Directors of the "Gum Drop Co-op" decided here was a good community use for their capital. The mothers, says the *Greenbelt Cooperator*, "came out of the conference with a loan of \$20 and a great deal of admiration and



respect for the self-help activities of their children."

GROWTH of student cooperatives is reported by the United States Office of Education in its recent bulletin, "College Projects for Aiding Students." Dormitories are operating in 98 colleges, and cooperative eating clubs are helping men and women cut the cost of living on a number of other campuses where rooming facilities are not available. Especially at State universities and State teacher colleges, students have learned to get together to reduce the cost of living.

According to the Office of Education, "all reports indicate an increasing demand by students for accommodations for cooperative living. . . . It appears that this mode of living has become a permanent policy at institutions of higher learning."

Through the National Committee on Student Cooperatives most of these college cooperatives are affiliated with the Cooperative League of the United States, and thus are part of the organized consumer cooperative movement.

IN New York City a new retail grocery store thought to capitalize on the popularity of the word "co-op." A sign announced its opening as a "Co-op Grocery Store"—with the name of the proprietor underneath. When the Eastern Cooperative League threatened to seek an injunction under a New York State law against this misuse of the cooperative name, the store tried changing "Co-op" to "Co-ob." Finally, it abandoned this pretense, and put up a sign carrying only the owner's name.

NATIONAL Cooperatives, federation of regional wholesale consumers' cooperative purchasing associations, has set up a subsidiary corporation to protect the trade name "co-op" which is owned by members of National Cooperatives. According to the Cooperative League of the United States, "during the last year several large private profit business organizations have featured the word 'co-op' in their national advertising, attempting to take advantage of the great interest in the cooperative movement."

RESOLUTIONS are sometimes straws in the wind. From the recent conventions of the two major labor federations of the country, came resolutions endorsing cooperatives as a means of protecting the worker-consumer.

"The past year has been a time of growing sales volume in consumers' cooperatives in the United States and of growing interest in cooperatives on the part of trade unions," the executive council of the American Federation of Labor pointed out in a report adopted by the convention.

"Efficiently operated consumers' cooperatives," continued the report, "may perform an essential service for union members by protecting them from price exploitation and helping them to secure quality goods at reasonable prices."

Several warnings were added by the A. F. of L. One was that "all local labor groups undertaking cooperative enterprise adhere closely to Rochdale principles and make sure that their cooperative is capably managed and that sound business principles and practices are followed. We urge them to keep in touch with the branch offices of the Cooperative League of the United States of America and to make use of the assistance offered by cooperative wholesalers which are members of the League."

Getting the Better of Bugs and Bacteria

[Concluded from page 15]

Guide, April 6, 1936) all pass in review through the test tubes of chemical and testing laboratories.

Year after year the field officers of the Food and Drug Administration have reported cases of a fatal mistaken identity of arsenical insecticides. Householders would go to their pantries looking for flour, or baking soda, or baking powder, and then because the arsenical pest-killer on the shelf was white, they would carelessly take it down and mix it into their bread, pies, or puddings. Meals with arsenic as a course are fatal and following numerous accidents of this character man-

"Unions must recognize that a cooperative is distinct in function from the trade union. The cooperative must stand on its own feet and earn its own way if it is to give service of any value to the union membership." When a union backs a co-op, therefore, the cooperative's treasury should be kept entirely separate from that of the union. Finally the report urged that "it is important that consumers' cooperatives in America recognize the necessity of trade-union organization and encourage their employees to become members of trade unions."

Aid to the development of co-ops among the unions affiliated with the Congress of Industrial Organizations was put up to the CIO executive board by the organization's first delegate convention. Whereas recited that:

"(1) Increased purchasing power in the hands of the great masses of the workers of the country is essential to a renewed and consistent prosperity;

"(2) If wage increases obtained by union action are to result in permanent expansion of consuming power, methods must be developed to prevent rising prices from absorbing the gains which are made; and

"(3) The development of an adequate system of consumers' cooperatives may be an effective weapon directly available to wage earners to control the prices of the things they buy."

ufacturers, with the decided approval of the Food and Drug Administration, determined to color these preparations pink. Where these poisons are colored pink there is no chance of mistaking them for flour.

Even this has not stopped this type of accidental poisoning. To make sure that no lethal doses of poisonous condiments enter their foods, householders should not store poisons of any kind in the house, if they can help it. They should be kept in the garage or in the shed. If there is no garage or shed they should be put away in the cellar out of the reach of children.

IN THIS ISSUE

JANUARY 16, 1939 • VOLUME V, NUMBER 15

Checkweighing for Full Measure	3
What's Behind Your Hat	6
Consumer Protection Takes to a Trailer	10
Getting the Better of Bugs and Bacteria	13
Cooperation	18

